

3.1.16.3 Water

The Moab site has its own pump station that can pump nonpotable water from the Colorado River. DOE currently has a water right for consumptive use of Colorado River water at the Moab site of 3.3 cfs (approximately 2,366 acre-feet per year). This right includes an additional 3.03 cfs (about 2,194 acre-feet per year) for nonconsumptive use. Potable water is available in the city of Moab. The city's potable water supply system is provided by the Glen Canyon aquifer (see Section 3.1.6.4) and can produce 3 million to 5 million gallons per day.

3.1.17 Transportation

3.1.17.1 Vehicular Traffic

US-191 provides highway access to the Moab site. It is generally two lanes wide but does have occasional passing lanes. Originating at the Arizona-Utah border and terminating at the Crescent Junction and I-70 intersection, US-191 provides north-south travel access in eastern Utah and also carries significant truck traffic. As much as 30 percent of the total vehicle volume consists of trucks.

Table 3–15 presents a summary of annual average daily traffic (AADT) counts, degree of congestion, percentage of truck traffic, number of accidents, and accident rates for US-191 between the White Mesa Mill site and Crescent Junction where it intersects with I-70. AADT volume is based on vehicle counts from continuously operating automatic traffic counters that do not discern direction of travel. The reported AADT is a combination of vehicles traveling in both directions for a specific route segment. Congestion is a reflection of the actual number of vehicles on a highway segment in relation to how many the road can safely handle. Various other factors, such as the geometry of the roadway and number of lanes, are also considered in determining whether a road is congested. Truck traffic is defined as single-unit delivery trucks or larger sized vehicles. Truck traffic is shown as a percent of the AADT. Accident rates are determined by comparing actual recorded crashes to expected accident rates for a specific road segment and per 1 million miles of vehicle travel. Expected accident rates are a 5-year average of accidents that occur on similar highway segments and include all types of vehicles. The rates provided in Table 3–15 are based on the 1997–2001 time period (Ames 2003).

As shown in Table 3–15, central Moab is considered congested and had a high accident rate of 3.5 accidents per 1 million miles of vehicular travel in 2001. Based on accident averages, it was expected to have an accident rate of 1.77. US-191 increases to four lanes in the downtown area to accommodate the increase in traffic. Within 1,400 ft of the north city limits, US-191 reduces to two lanes, congestion is no longer a problem, and the accident rate reduces to low, which is characteristic of most sections of US-191 (Ames 2003). It is assumed that the large increase in traffic volume in the downtown area reflects downtown business activity and cross traffic that stays within the city. No state or federal routes converge with US-191 in Moab.

The city of Moab is concerned about traffic congestion within the central area, which continues to get progressively worse as the city grows and attracts increasing tourism and tourism-related commerce and recreation. The city has considered a bypass to relieve traffic congestion; however, it has not yet begun a feasibility study (Vaughn 2003). UDOT plans to replace the existing pavement on US-191 in central Moab and work on utility improvements during the next 2 years, which will temporarily increase the already high level of congestion (Manwill 2003).

Table 3–15. Annual Average Daily Traffic, Road Congestion, Truck Percent, and Highway Accidents for US-191 and I-70 in 2001

Road Segment (or MP ^a)	AADT	Congestion	Truck Percent	Accidents ^b		Rate
				Expected	Actual	
On I-70, 7 miles west of Crescent Junction (Floy Wash area)	7,040	No	16	0.81	0.31	Less than expected
On I-70 just east of US-191	7,030	No	15	0.81	0.9	More than expected
On US-191 at Crescent Junction and I-70	2,855	No	30	1.95	1.08	Less than expected
US-191 and MP 140.8-141.8	2,855	No	30	1.72	1.92	More than expected
US-191 and MP 138.2-139	2,855	No	30	1.72	0.43	Less than expected
US-191 and MP138.2	2,855	No	30	1.72	0.43	Less than expected
US-191 and SR-313 (MP137.2)	2,855	No	30	1.72	1.71	Less than expected
US-191 and entrance to Arches National Park (MP 131.27)	2,855	No	30	1.72	1.3	Less than expected
US-191 Junction with SR-128 (MP128.62)	5,520	No	16	2.01	0.92	Less than expected
US-191 and North Moab city limits (MP127.43)	5,942	No	10	1.77	0.7	Less than expected
US-191 and Central Moab (MP 126.26)	16,045	High	4	1.77	3.5	Much more than expected
US-191 and San Juan/Grand County line (MP 119.44)	8,510	No	14	2.01	1.02	Less than expected
US-191 and La Sal Junction at SR-46 (MP 103.91)	3,255	No	14	1.72	1.50	Less than expected
US-191 and Monticello (MP 72.14)	3,110	No	14	1.72	7.72	Much more than expected
US-191 and south Blanding city limits (MP 50.13)	7,450	No	7	1.72	0.99	Less than expected
US-191 and SR-95, 4 miles south of Blanding (MP 47.47)	3,970	No	10	1.72	2.29	More than expected
US-191 and White Mesa Mill site (MP 44.61)	2,861	No	13	1.72	1.47	Less than expected

^aMP is mile point along the road measured from the Arizona-Utah state line.

^bAccidents rates are based on actual number of crashes per 1 million miles of vehicular travel and compared to expected numbers of accidents per 1 million miles of vehicular travel.

Reference: UDOT 2002a; Ames 2003.

Although US-191 is part of a national truck route that originates in Texas and ends in Washington, with several exceptions (notably in Moab), this highway does not carry large traffic volumes, is not considered congested or operating near capacity, and has a low accident rate (Ames 2003). [Figure 3–21](#) shows area roads, AADT on US-191, areas with accident rates that are higher than expected, and the location of the Union Pacific Railroad.

Peak traffic levels in this area are reported between the months of March and October, when the average daily traffic (ADT) volumes may increase by as much as 77 percent between February and March and peak traffic occurs in May or June. Between October and November, the ADT may reduce by an estimated 35 percent (UDOT 2002a). [Table 3–16](#) provides average monthly vehicle travel for the period of 2000 to 2002. The 12-month period in 2002 showed a 4-percent increase over the 2001 time period.

Table 3–16. Average Monthly Vehicle Traffic Near the North Boundary of Moab

Month	2000		2001		2002	
	Traffic Count	Percent Change From Previous Month	Traffic Count	Percent Change From Previous Month	Traffic Count	Percent Change From Previous Month
January	2,902		2,847	–12	2,938	–9
February	3,324	15	3,251	14	3,638	24
March	5,257	58	5,312	63	6,443	77
April	7,212	37	7,235	36	6,915	7
May	7,646	6	7,627	5	7,913	14
June	7,722	1	6,897	–10	7,136	–10
July	7,601	–2	6,519	–5	6,715	–6
August	6,052	–20	6,542	0.4	6,400	–5
September	6,703	11	6,433	–2	6,590	3
October	6,068	–9	5,866	–9	6,357	–4
November	3,554	–41	4,340	–26	4,146	–35
December	3,252	–8	3,216	–26	3,582	–14
Year Totals	67,293		66,085		68,773	

Reference: UDOT 2002a.

Numerous county roads in the area (see Figure 3–21) are used for recreational travel by off-highway vehicles, motorcycles, or mountain bikes to backcountry areas. Some of the roads are former highway routes that pre-date I-70 construction and some are the result of seismic exploration activities.

CR-138, 1 mile south of the Canyonlands Field Airport, is locally known as Blue Hills Road. This is a dirt surface, two-lane road that carries heavy off-highway vehicle traffic to backcountry areas. The road surface is wider than the typical two-lane road. During the peak summer use season, 100 vehicles per day may travel the road (Vaughn 2003). BLM recorded 53,000 vehicle counts on CR-138 during a 12-month period in 2002. Although there are many connecting road choices, it is believed that the majority of the vehicles also return to US-191 by using CR-138 (Von Koch 2003).

CR-236 provides access to the Grand County landfill, locally known as the Klondike landfill, and to a radio tower. The landfill is about 1 mile west of US-191 and is operated by the Grand County Solid Waste District. The amount of daily traffic accessing the landfill on this road is unknown. CR-236 continues as a dirt track past the landfill.

Another former highway alignment out of use since about 1911 is CR-144, also known as the Thompson Cut-Off Road. This road has a gravel surface and is locally used to access I-70 at Thompson Springs.

CR-175 is north of I-70 at Crescent Junction. This road also predates I-70 and still carries local or frontage road traffic from Crescent Junction to Thompson Springs or farther to a point near Cisco. It is a two-lane road from Crescent Junction to the bridge over Thompson Wash, where it narrows to one lane because of the condition of the bridge. It continues as a two-lane road east of Thompson Springs. Although there may be occasional local use of this frontage road, most of the asphalt pavement is deteriorating and would need resurfacing for any sustained increase in use.

The stretch of US-191 area between the Canyonlands Field Airport (Blue Hills Road) and CR-334 to the north is locally considered a potentially dangerous section of the highway. The combination of terrain, slower moving vehicles, and the two-lane limitation can create dangerous passing situations (Vaughn 2003). In addition, according to UDOT highway statistics, a 2-mile stretch of US-191 south of Blue Hills Road sustains more accidents than expected (Ames 2003).

To relieve congestion associated with traffic in the Arches National Park entrance area, a new entrance road has been constructed within the park that will connect with US-191 approximately three-quarters of a mile south of the existing entrance to the park.

UDOT plans to upgrade US-191 to four lanes between Moab and Crescent Junction. However, the current budget only includes upgrades between the area just north of SR-128 to the area just north of SR-313; adding two turn lanes at the entrance to Arches National Park, at Gemini Bridges, and at SR-313; adding a 2-mile-long bicycle lane on the northeast side of US-191; and adding center divides along some stretches of US-191. These upgrades are planned to be completed in 2004 (Manwill 2003).

3.1.17.2 Rail Transport

The Union Pacific Railroad parallels I-70 and offers predominantly freight rail service. On a daily basis, there is usually one Burlington Northern train carrying 75 to 100 cars of mixed manifest; two to three freight trains of 105 to 134 empty coal cars; one to two loaded coal trains of 105 cars; and an east-bound passenger train and a west-bound passenger train. The California Zephyr passenger train stops in Green River, Utah, and Grand Junction, Colorado (Legg 2003).

The Cane Creek Branch of the Union Pacific Railroad parallels US-191 and provides weekly freight service to the Moab Potash and Salt Mine. It carries potash and salt to Crescent Junction and continues on the Union Pacific Railroad to Grand Junction for distribution to points east and west. This train consists of between 40 and 50 cars. It does not stop between the Moab Potash and Salt Mine and Crescent Junction but does cross several county roads with unguarded and unmarked rail crossings. As shown on Figure 3–21, just north of Blue Hills Road (CR-138), the railroad crosses under US-191 from the east to the west side, where it continues south toward the Moab Potash and Salt Mine. At the Blue Hills Road crossing, there is a stop sign but no rail guard arms or signal. After traversing a tunnel, the railroad emerges several miles from the Moab Potash and Salt Mine and continues on the north side of SR-279. The Moab Potash and Salt Mine is located 16 miles from the intersection of US-191 and SR-279.

There was one recorded fatality on the Cane Creek Branch during the period of 1974 or 1975 to 2003. Injuries of all kinds for all travel on the Union Pacific Railroad are reported as averaging 2.9 per 100,000 man-hours of work. Derailments are reported per ton-mile and were estimated at possibly 0.009 percent (Legg 2003).

3.1.18 Socioeconomics

This section describes the socioeconomic environment of Grand and San Juan counties, Utah, in terms of their demographic, economic, and natural resource features.